



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,962	06/27/2003	Seiji Horie	019519-395	4849

7590 08/28/2006

BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,962

Applicant(s)

HORIE ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/06/2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (U.S. 6,197,847) in view of either EP 1025815 or Adams (U.S. 2002/0147252).

Kato et al. disclose oil-based ink for ink jet printer wherein the ink comprises pigment, i.e. core, contained in resin particles, i.e. shell, wherein the resin is obtained by dispersion polymerization of two monofunctional monomers which are dispersed in non-aqueous solvent in presence of dispersion stabilizer and polymerization initiator. It is disclosed that one monomer contains fluorine atom. The non-aqueous solvent possesses dielectric constant of 3.5 or less. It is further disclosed that the pigment is dispersed with dispersant. Although there is no explicit disclosure of the average particle diameter of the pigment, given that Kato et al. disclose that the pigment is contained in the resin and given that it is disclosed that the resin has average particle size of 0.08-0.8 μm , it is clear that the pigment must necessarily possess average particle size less than 0.08-0.8 μm which clearly overlaps the particle size as presently claimed (col.1, lines 8-10, col.2, line 55-col.3, line 4, col.6, lines 52-65, col.7, lines 50-54, col.8, line 38, col.16, lines

14-17 and 30, col.26, lines 34-40, col.28, lines 34-43, col.28, line 65-col.298, line 6, and col.43, lines 1-13). Although there is no disclosure of the surface tension of the non-aqueous solvent given that Kato et al. utilize solvent identical to those utilized in the present invention, i.e. those known under the trade name Shellsol 70, Shellsol 71, Isoper E, Isoper G, or Isoper H, it is clear that the solvent would intrinsically possess surface tension as presently claimed.

The difference between Kato et al. and the present claimed invention is the requirement in the claims of (a) surface treated pigment and (b) product used to produce the colored resin.

With respect to difference (a), EP 1205815, which is drawn to oil-based ink, discloses the use of pigment surface treated with polymer in order to improve the dispersion stability and charge characteristics of the ink (paragraphs 1, 5, 12, 14-15, 20-21, 27-29, 32, 42, 44, and 46-47).

Alternatively, Adams discloses pigment surface treated with polymer, i.e. core, which is then coated with another polymer, i.e. shell, wherein the motivation for using such surface treated pigment is to produce ink with good dispersion stability, printability, and print performance. It is further disclosed that such core-shell particles are suitable for use in non-aqueous inks (paragraphs 3, 6, 8, 16, 27, 36, 39, and 52).

In light of the motivation for using surface treated pigment disclosed by EP 1205815 or Adams as described above, it therefore would have been obvious to one of ordinary skill in the art to use such surface treated pigment in the ink of Kato et al. in order to produce ink with improved dispersion stability and charge characteristic or, alternatively, ink with good dispersion stability, printability, and print performance, and thereby arrive at the claimed invention.

With respect to difference (b), Kato et al. disclose process for making colored resin wherein the colorant is dispersed with dispersant in non-aqueous solvent and then the pigment dispersion mixed with resin, however, there is no disclosure of process as presently claimed.

However, although neither Kato et al., EP 1205815, or Adams disclose process for making colored resin as presently claimed, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product” *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process and given that Kato et al. in view of either EP 1205815 or Adams meet the requirements of the claimed product, i.e. colored resin particles, it is clear that Kato et al. in view of either EP 1205815 or Adams meet the requirements of the present claims.

Response to Arguments

5. Applicants’ arguments filed 06/06/2006 have been fully considered but they are not persuasive.

Specifically, applicants' argue that there is no motivation to combine Kato et al. with EP 1205815 given that while Kato et al. disclose copolymer resin particles obtained by polymerization granulation of a solution comprising at least one monofunctional monomer and at least one resin for dispersion stabilization, EP 1205815 is drawn to surface treated pigment dispersed in organosol containing a carrier liquid. Further, applicants argue that it would not have been obvious to one of ordinary skill in the art that employing the surface treatment disclosed by EP 1205815 in connection with the materials and methods used in Kato et al. would result in the advantages disclosed by EP 1205815.

However, while there is no disclosure in EP 1205815 of copolymer resin particles obtained by polymerization granulation of a solution comprising at least one monofunctional monomer and at least one resin for dispersion stabilization, applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." EP 1205815 is, therefore, a reasonably pertinent reference because it teaches that the use of pigment that is incorporated into polymer wherein the pigment is surface treated results in ink with improved dispersion stability and charge characteristics, which is a function especially pertinent to the invention at hand.

Further, it is significant to note that EP 1205815 is drawn to oil-based ink comprising pigment incorporated into core-shell polymer and carrier liquid having dielectric constant of 1-5

including those known under the tradename Isopar which is identical to that utilized in the present invention as well as in Kato et al. Further, EP 1205815 teaches the surface treatment of the pigment that is incorporated in the polymer results in ink with improved dispersion stability and charge characteristics.

Given that Kato et al. disclose oil-based ink comprising core-shell particles, i.e. pigment contained in resin particles obtained by dispersion polymerization of two monofunctional monomers which are dispersed in non-aqueous solvent in presence of dispersion stabilizer and polymerization initiator, but do not disclose that the pigment is surface treated as required in the present claims, given that EP 1205815 is drawn to oil-based ink comprising pigment incorporated into polymer as is Kato et al., and given that EP 1205815 provides motivation for surface treating the pigment, it is the examiner's position that there is proper motivation to combine Kato et al. with EP 1205815.

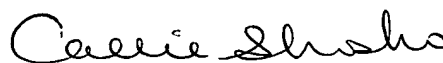
Additionally, given that EP 1205815 discloses that the surface treated pigment is incorporated into polymer in an oil-based ink, it would have been obvious to one of ordinary skill in the art that the use of such surface treated pigment in Kato et al. would achieve the same benefits as disclosed by EP 1205815 when such pigment is incorporated into the polymer of the oil-based ink of Kato et al.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

Art Unit: 1714

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
8/19/06